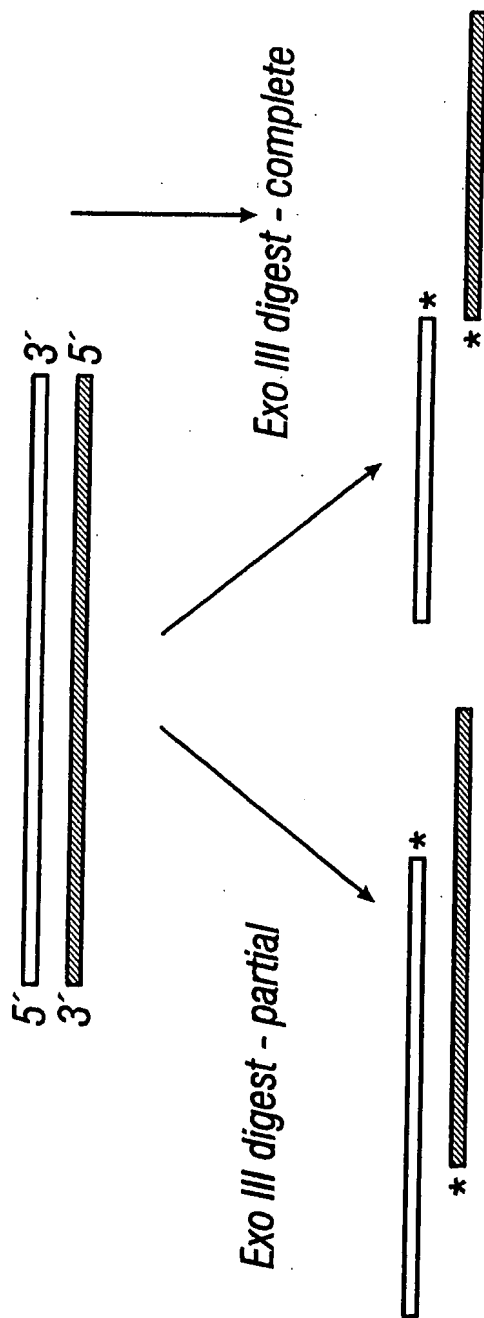


6605349

*Exo III Generated Structures*



**FIG. 1**

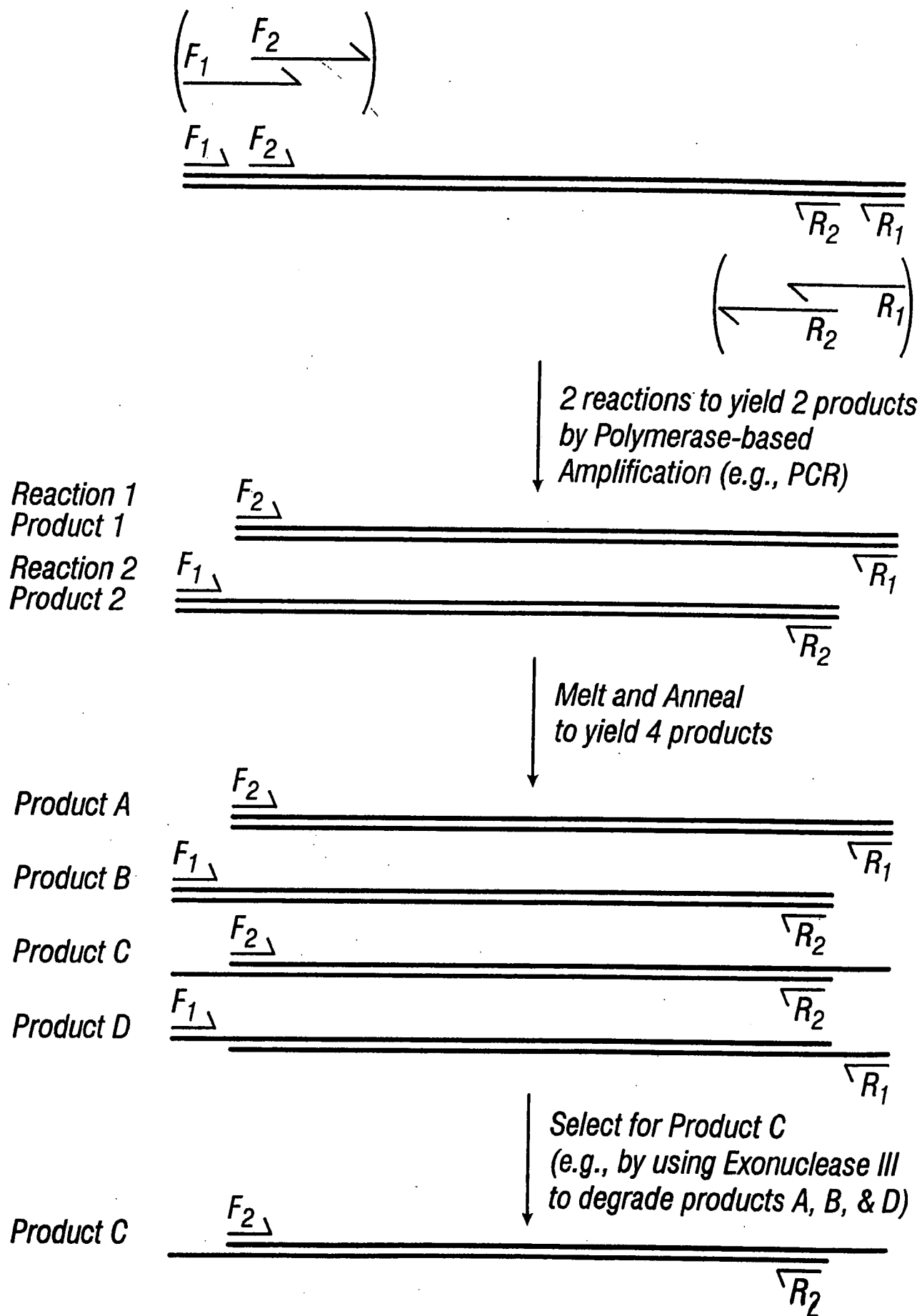
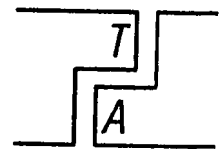
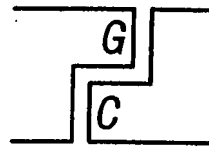
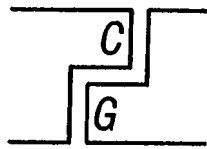
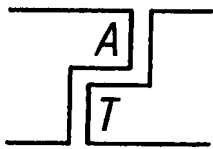


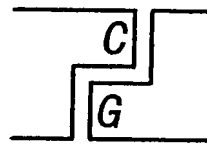
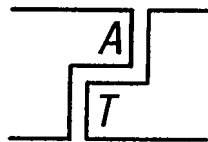
FIG. 2

APR 28 4

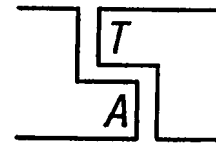
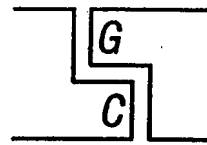
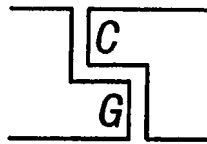
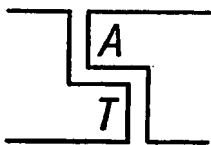
*Panel A.*



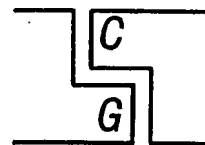
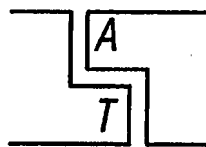
*Panel B.*



*Panel C.*

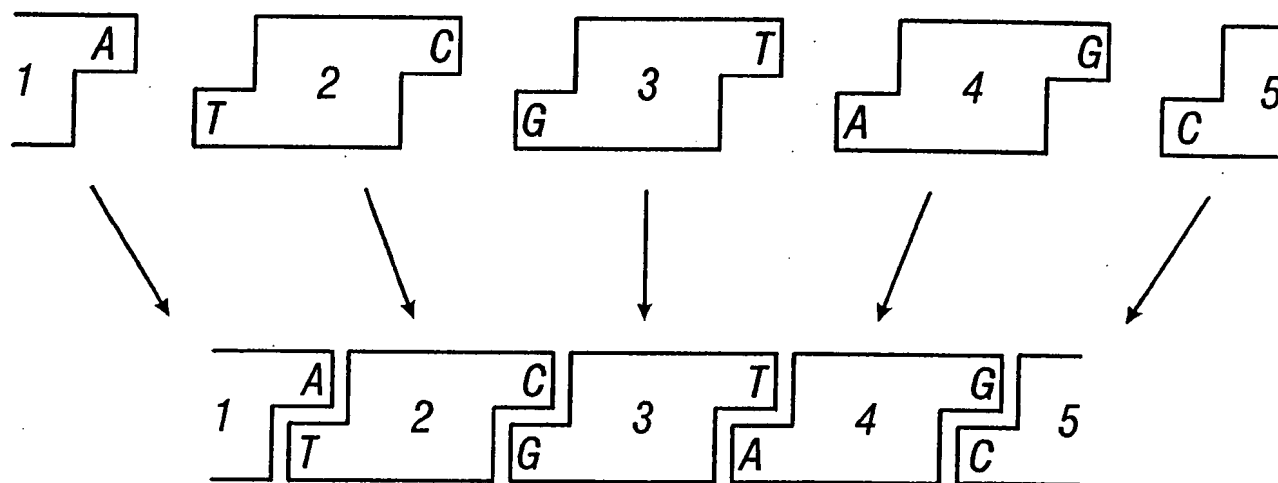


*Panel D.*



**FIG. 3**

*Panel A.*

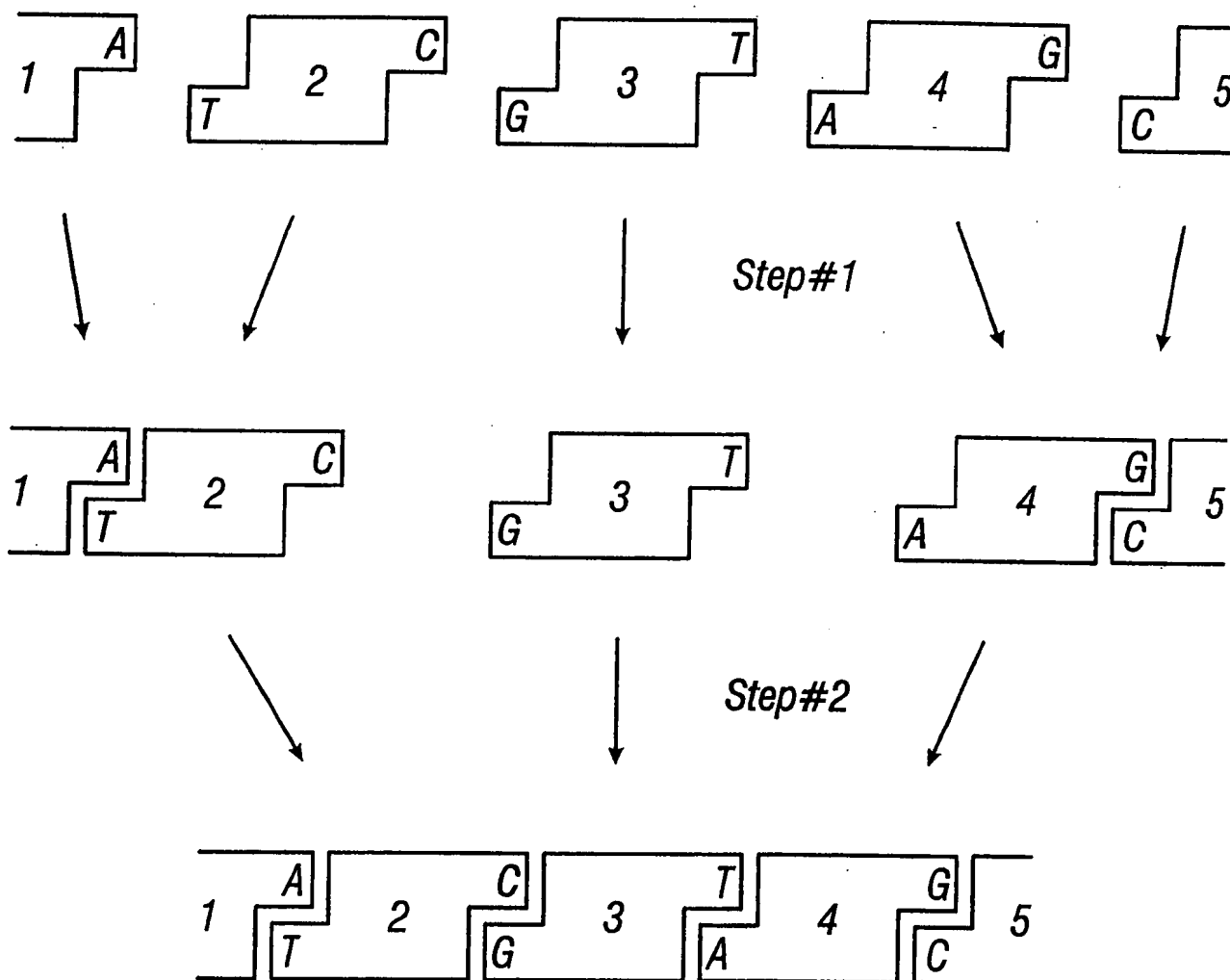


*Panel B.*



**FIG. 4A**

*Panel C.*



**FIG. 4B**

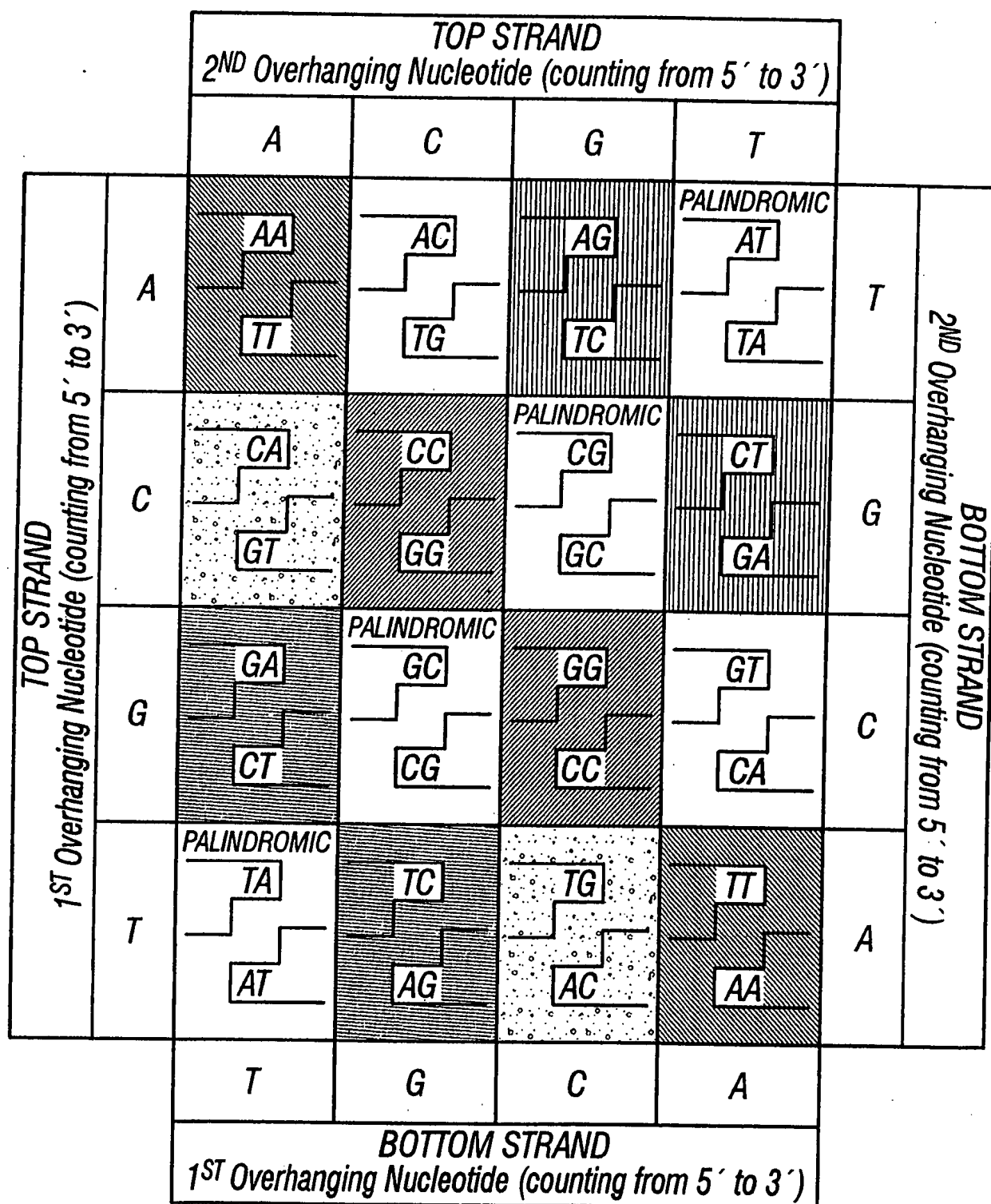
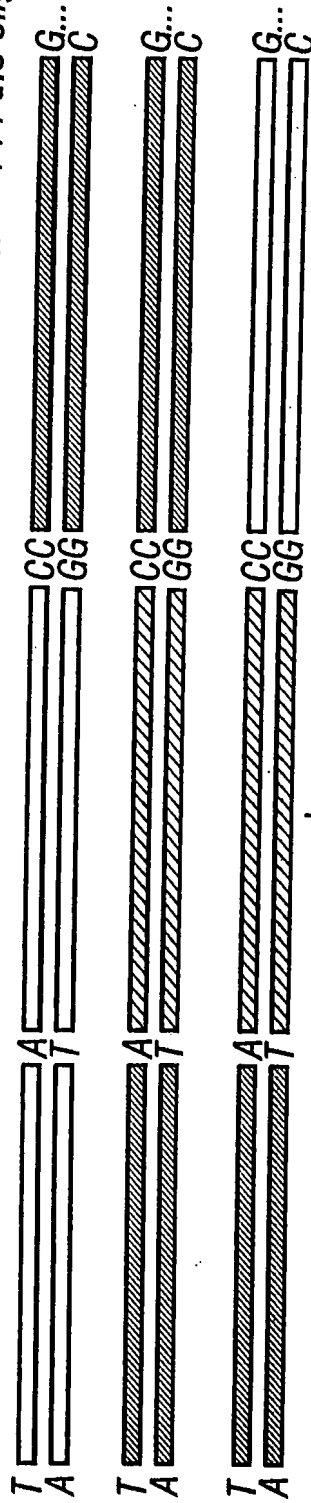


FIG. 5

Select for full length

1  
124-2d AATGGACAAG AAACGTGTCC GTGTGTACAA CGCGGAGATG GCCTATGTCG 50  
12412 ~ATGGAGAAA CACCGCGTAG AAGTTCTCGG TTCGGAGATG GCCTACATCG  
124-1d ACACGACAAG CGCTACATCG AGGTGCTGGG TAAGCGAATG GCCTATGTCG  
myco1 CGGGCAGCCG AAGTACCCTAG AAATCGCCCG GAAGCGCATG GCGTATATCG  
b3 CTACCCAAA TTTCCGGCGGT CCGTCTTCGG CCGCGAGATG GCGTACGTGG  
b1 GCATCCGAGA AAGCGGATCG CCGTGCTCGA TTCGGAGATG AGCTACGTG  
15112 ~ATGCCAGCG ATTGAGCTAT TGGATTCTGTT CATGAACCTAC CGCGACACGG  
rhod2 CCCCATTAT GTGGAAGTCC TGGCGGAGCG TATGCACTAC GTCGATGTTG  
Consensus----- A-----G

8 + 8 + n = 144 d.s oligos



Ligate

$8^{18} = 2 \times 10^{16}$  Reassembled Gene Variants

FIG. 6A

100  
ACACGGGCCA GGGTGATTCC GTTCTGTTTC TTCACGGCAA CCCGACGTCG  
ACGTGGGAGA GGGGACCCG ATCGTGTTCC TCCACGGAAA TCCACGTCG  
AGATGGGCGA GGGTGATCCC ATCATTTTCC AACACGGCAA TCCGACCTCA  
ACGAAGGCAA GGGTGACGCC ATCGTCTTTC AGCACGGCAA CCCACGTCG  
AAGTGGGACG GGGGACCCC ATCGTACTCT TGCACGGCAA CCCACCTCG  
ATACCGGCGA GGGAGCGCCG ATCGTGTTCC TTCACGGCAA CCCGACTTCC  
GCGTCGGCGA T...CTTCCC GTCGTGTTCC TGCACGGCAA CCCACGTCG  
GACCGCGGGA TGGCACGCCT GTGCTGTTCC TGCACGGTAA CCCGACCTCG  
-----G--- -T---T---T--- --CACGG-AA -CC-AC-TC-

FIG. 6B

Represents 15% of gene

150  
TCGTATCTGT GGAGGGGCGT AATGCCCTTT GTGACGGACG TCGCCCCGATG  
TCGTACCTGT GCGGGAACGT GATTCGCCAC GTTGCCGGCT TGGACGCTG  
TCGTACCTGT GCGCAACAT CATGCCCCCAT GTGCAACAGC TCGGTCGCTG  
TCCTACTTGT GCGCAACAT CATGCCGCAC TTGGAAGGC TGGCCGGCT  
TCGTACCTCT GCGCAACGT GTTGCCGCAC CTGGGCCGT TAGGCCGCTG  
TCCTATCTTT GCGCAACAT CATCCCCAT CTCGGGATC ACGCAGATG  
TCTCACGTCT GCGCAACGT GATCCCGCAC GTCGCTGGC AGCACGGTG  
TCCTACCTGT GCGCAACAT CATCCCGCAT GTAGCACCGA GTCATCGGTG  
TC--A--T-T GG-G---C-T --T-CC---- -T-----G---

FIG. 6C



NcoI

|            |                    |            |            |            |            |
|------------|--------------------|------------|------------|------------|------------|
| 150am13_00 | <u>CATGATGCACG</u> | GGGATATTC  | ATCGAGCAAT | GACACGGTCG | CCGT       |
| 150am7_001 | <u>CATGCATCACG</u> | GGGACATTC  | ATCGAGCAAT | GACACGGTCG | CCGT       |
| 431am7_002 | <u>CATGAGACACG</u> | GAGATATCTC | CAGCAGCAAC | GATGCGTGG  | CCGT       |
| 150am13_00 | CGTGAAC <u>TAC</u> | AAGATGCCTC | GCCTTCATAC | CAAGGCGGAG | GAG GT     |
| 150am7_001 | CGTGAAC <u>TAC</u> | AAGATGCCGC | GGCTTCACAC | CAAGGCTGAG | GT         |
| 431am7_002 | CGTGAAC <u>TAC</u> | AAGATGCCGC | GGCTGCATAC | CCGCGCGGAG | GT         |
| 150am13_00 | ACGCCAGAAA         | GATCGCGGAG | ATGATCGTCG | GCATGAAGAC | CGG        |
| 150am7_001 | ACTGCCGCAA         | GATCGCCGAC | ATGCTGGTCG | GCATGAAGAG | CGG        |
| 431am7_002 | ACGCCCGCAA         | GATCGCCGAC | ATGGTCGTGG | GCATGAAGCG | CGG        |
| 150am13_00 | GGAATGGATC         | TGGTGATCTT | CCCGGAATAT | TCGACCCACG | CCACG      |
| 150am7_001 | GGAATGGATC         | TGGTGATCTT | CCCGGAATAT | TCCACCCACG | GCATCATGTA |
| 431am7_002 | GGCATGGACC         | TGGTCATCTT | CCCCGAGTAC | TCCACCCACG | GCATCATGTA |
| 150am13_00 | CGACTCCAAG         | GAAATGTACG | ATACCGCGTC | CGTCGTGCC  | CCC GG     |
| 150am7_001 | CGACTCCAAG         | GAGATGTACG | ACACGGCGTC | GACGGTGCCG | GG         |
| 431am7_002 | CGACGCCAAG         | GAAATGTACG | AAACCGCTTC | GGCCATTCCG | GG         |
| 150am13_00 | CCGAGATTTT         | TGCCGAAGCC | TGCCGCAAGG | CGAAAGTCTG | G GGG      |
| 150am7_001 | CCGAGATTTT         | CGCCGAGGCC | TGCCGCAAGG | CCAAGGTCTG | GGG        |
| 431am7_002 | CTGCTGTGTT         | CGCCGACGCC | TGCCGCAAGG | CCAACGTATG | GGG        |

FIG. 7A

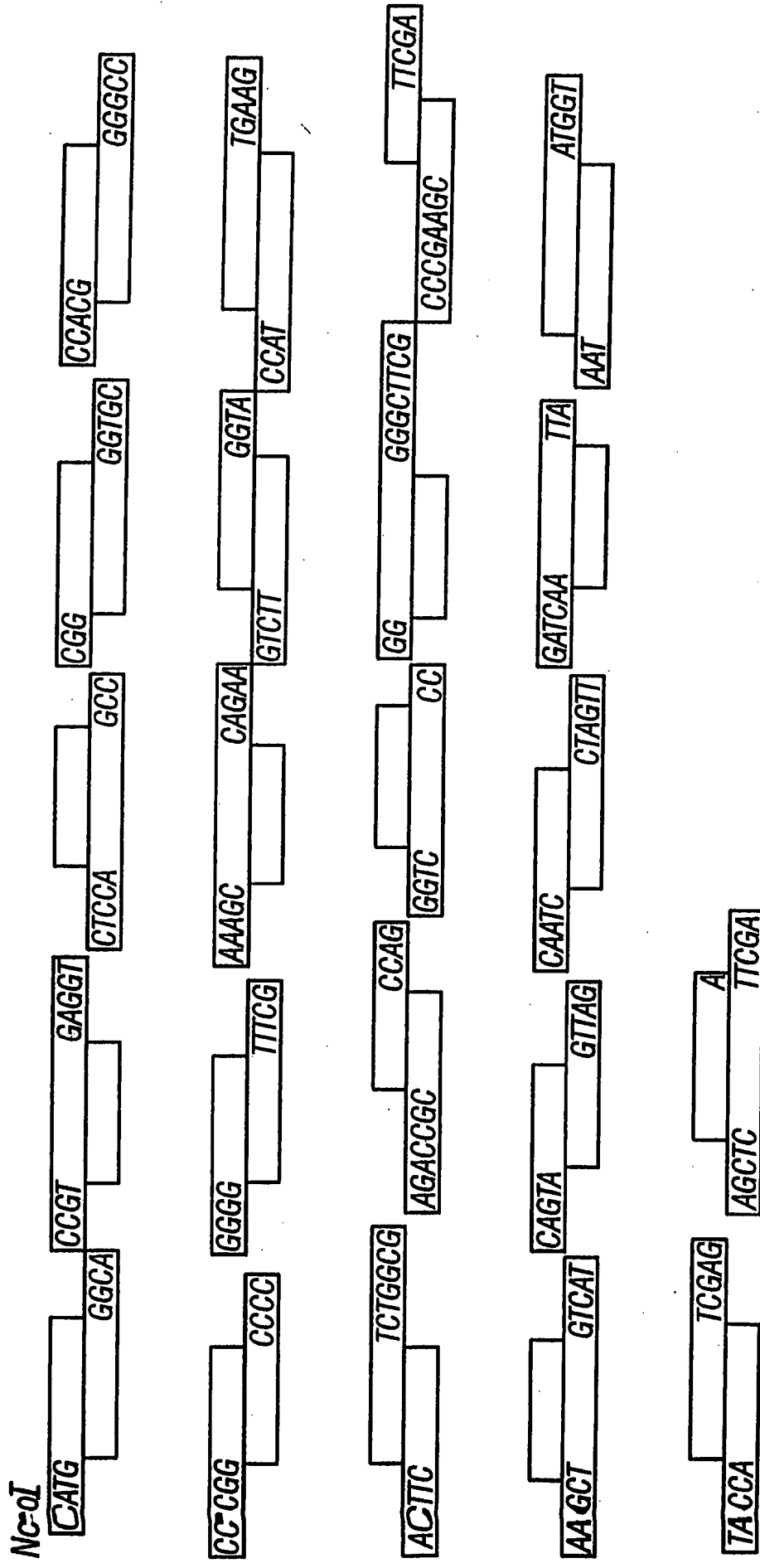


|            |             |            |     |             |            |             |
|------------|-------------|------------|-----|-------------|------------|-------------|
| 150am13_00 | GTCAATCATGG | CGAAGGC    | GAT | GGCGTGGCGG  | AATAATTGTT | ACGTCGCGGT  |
| 150am7_001 | GTGCTGATGG  | CGAAAGCAAT |     | GGCCTGGGCC  | AACAACGTTT | ATGTCGCGGT  |
| 431am7_002 | GTCAATGGTGT | CCAAGGC    | CAT | GGCGTGGATG  | AACAACGTCT | ACGTGGCGGT  |
|            |             | GGGCTTCG   |     |             |            |             |
| 150am13_00 | TTCCAATGCC  | GGGGCTTCG  |     | ATGGCGTCTA  | TTCGTATTTC | GGCCACTCGG  |
| 150am7_001 | CGCCAATGCC  | TGGGCTTCG  |     | ACGGCGTCTA  | CTCGTATTTC | GGCCATTTCG  |
| 431am7_002 | GGCCAATGCC  | GGGGCTTCG  |     | ACGGCGTGTA  | TTCCTACTTC | GGCCATTTCG  |
|            |             | TTCGA      |     |             |            |             |
| 150am13_00 | CGATCATCGG  | CTTCGATGGC |     | CGCACGCTCG  | GCGAATGCGG | CGAGGAAGAA  |
| 150am7_001 | CGATCATCGG  | CTTCGACGGC |     | CGTACCCCTCG | GCGAATGCGG | CGAGGAGGAT  |
| 431am7_002 | CCATCATCGG  | CTTCGACGGC |     | CGCACGCTGG  | GCGAATGCGG | TGAAGAAGAC  |
|            |             | C AGTA     |     |             |            |             |
| 150am13_00 | TACGGCATCC  | AGTATGCCCA |     | GCTTTCGAAG  | ATGCTGATCC | GCGACGCCCG  |
| 150am7_001 | TATGGCATCC  | AGTATGCCGC |     | CATCTCCAAG  | TCGCTGATCC | GCGACGCCCG  |
| 431am7_002 | ATGGCGTGC   | AGTACGCCCA |     | GCTCTCCACC  | AGCCTGATCC | GCGACGCCCG  |
|            |             | CAATC      |     |             |            |             |
| 150am13_00 | CCGCACCGGA  | CAATCGGAAA |     | ACCATCTCTT  | CAAGCTGGTG | CATCGTGGCT  |
| 150am7_001 | CCGCACCGGC  | CAATCGGAAA |     | ACCATCTCTT  | CAAGCTGGTG | CACCGTGGCT  |
| 431am7_002 | CAAGAACATG  | CAGTCGCAGA |     | ACCACCTTGT  | CAAGCTGGTG | CACCGCGGCT  |
|            |             | GATCAA     |     |             |            |             |
| 150am13_00 | ACACCGGGTT  | GATCAACTCC |     | GGCGAGGGCG  | ACCGCGGTCT | CGCGGCCCTGT |
| 150am7_001 | ACACCGGCAT  | GATCAACTCC |     | GGCGAGGGCG  | ACCGCGGTGT | CGCGGCTTGC  |
| 431am7_002 | ACACCGGCAA  | GATCAACTCC |     | GGCGAAGAGG  | CCACCGGCGT | CGCGGCATGC  |

FIG. 7C

|            |     |         |      |       |             |            |            |            |
|------------|-----|---------|------|-------|-------------|------------|------------|------------|
| 150am13_00 | TTA | CC      | TTA  | TGAGT | TCTACAACAA  | ATGGATCGCC | GATCCGGAAG | GCACCCGCGA |
| 150AM7_001 |     | CC      | GTA  | TGATT | TCTATTTCGAA | ATGGATCGCC | GATCCCGAGG | GTACACGCGA |
| 431am7_002 |     | CC      | GTA  | CAACT | TCTACGCCAA  | CTGGATCAAC | GATCCGGAGG | GCACGCGCAA |
|            |     | ATGGT   |      |       |             |            |            |            |
| 150am13_00 |     | AA      | TGGT | TCGAG | TCCTTTACCC  | GGCCGACGGT | GGGAACCGAT | GAAGCGCCCA |
| 150AM7_001 |     | GAT     | GTT  | GGAA  | TCCTTCACGC  | GTCCGACGGT | GGGTGTGGAG | GAATGCCCGA |
| 431am7_002 |     | GAT     | GTT  | CGAA  | TCCTTCACCC  | GGTCCACCGT | GGGCACGCCG | GAGTGCCCCA |
|            |     | TCGAG   |      |       |             |            |            |            |
| 150am13_00 |     | TC      | GAA  | GGCAT | CCCGAACAAAG | GTCGCGGTGC | ACCGCTGA   | aagct      |
| 150AM7_001 |     | TC      | GAG  | GGCAT | TCCGAACAAG  | GCCACCACGC | ACCGCTGA   | aagct      |
| 431am7_002 |     | TGG     | AC   | GGCAT | CCCCAACGAG  | GACGCCAAGC | ACCGCTAG   | aagct      |
|            |     | HindIII |      |       |             |            |            |            |

FIG. 7D



*Hind*III

FIG. 8

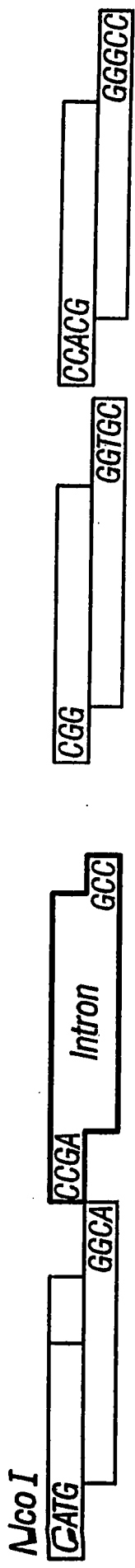


FIG. 9

Gap Ligation

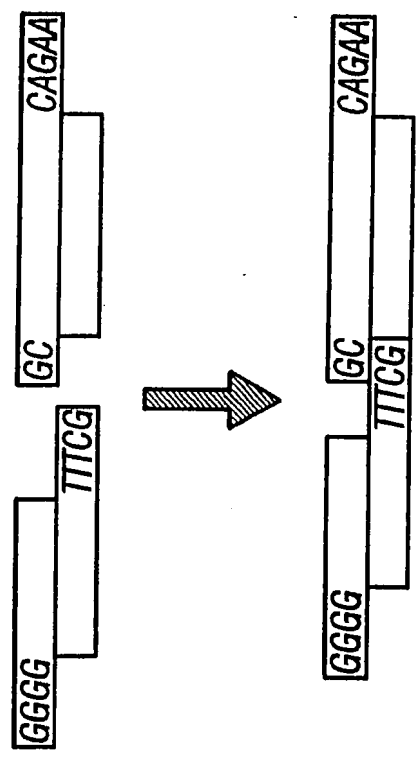


FIG. 10

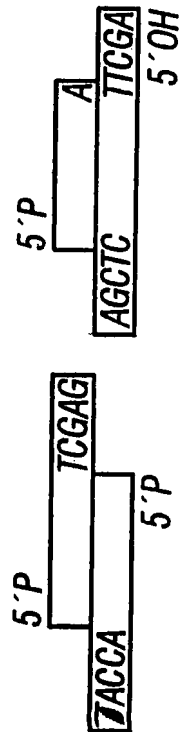
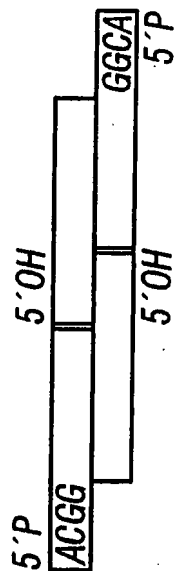
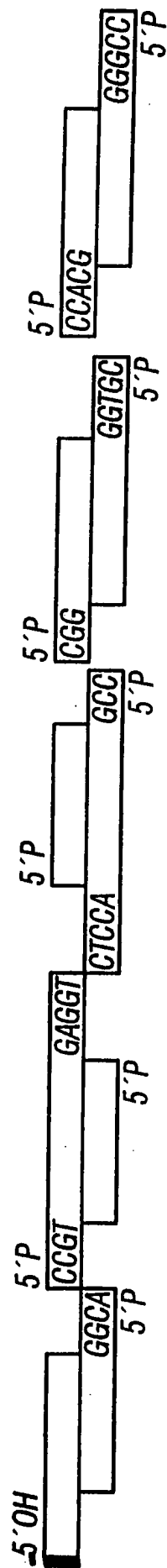


FIG. 11

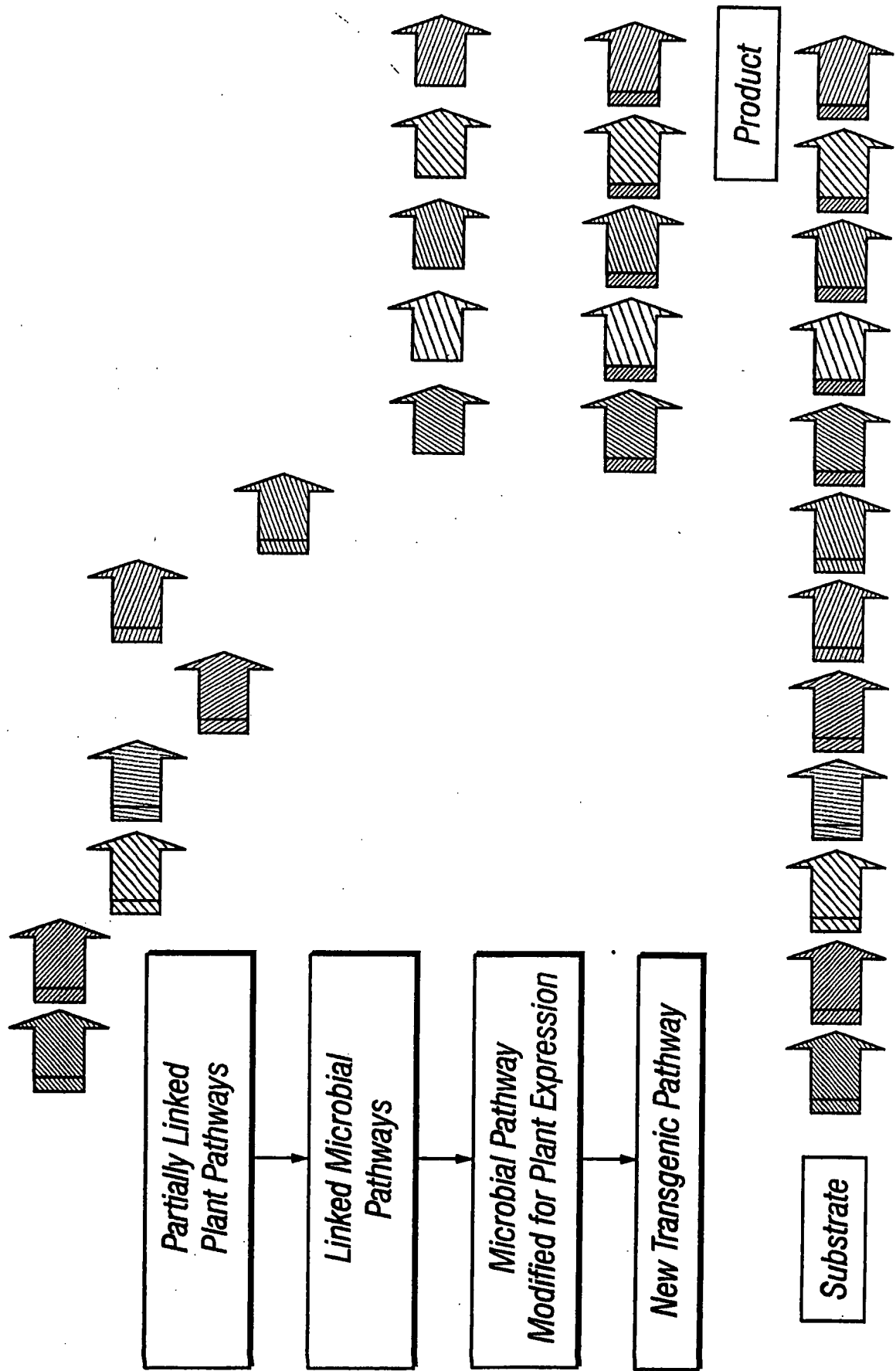


FIG. 12



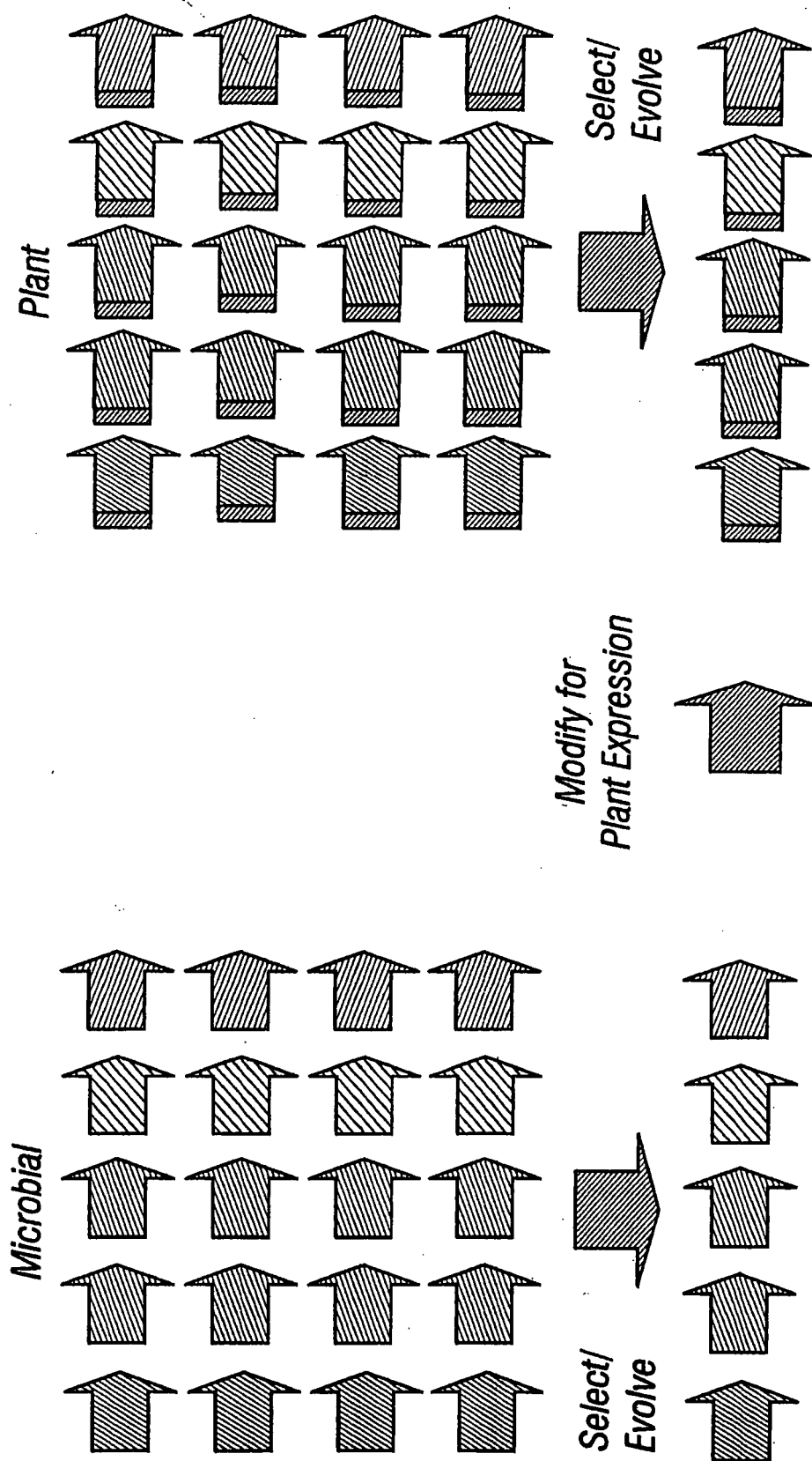


FIG. 13

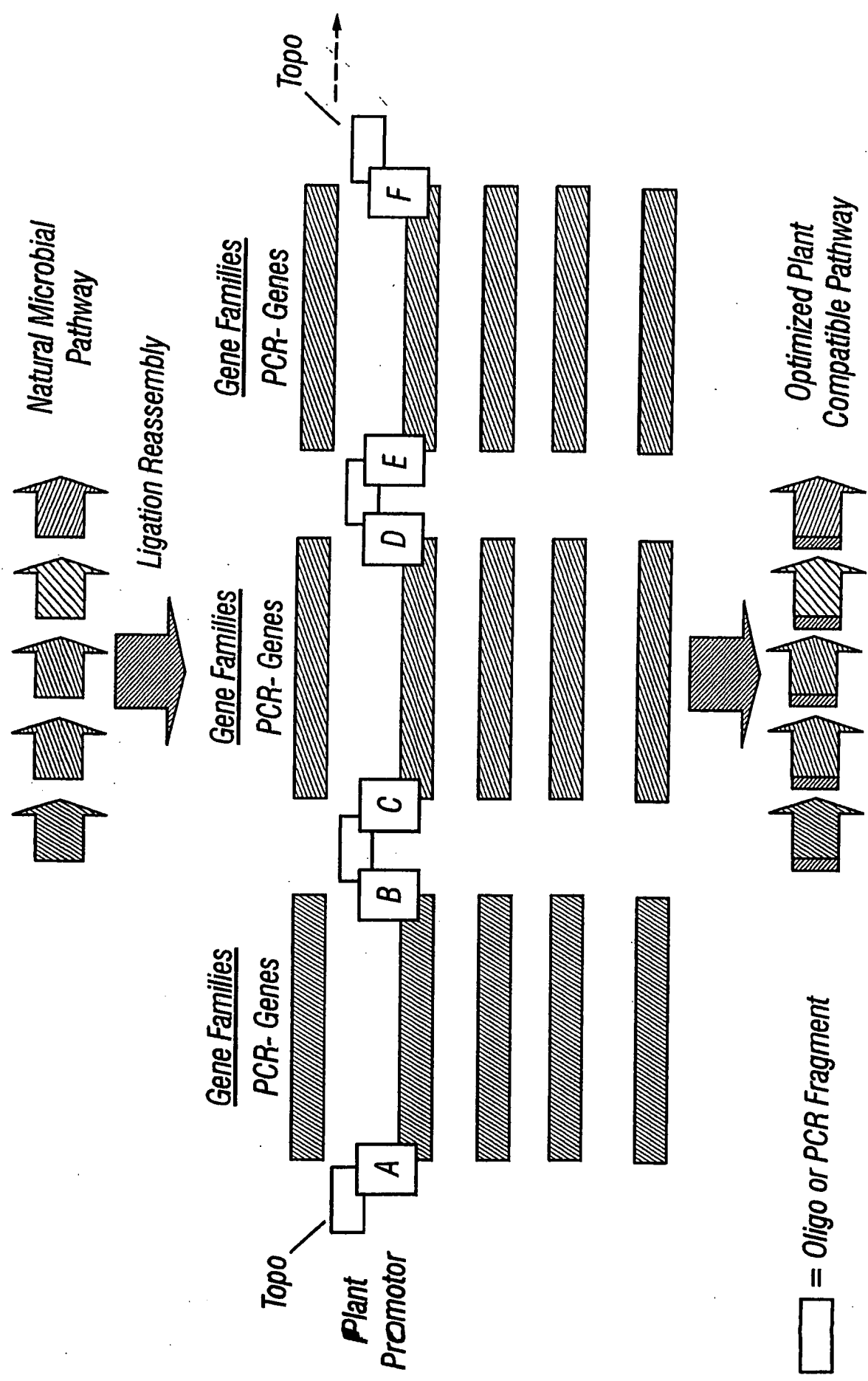


FIG. 14

**Figure 15**

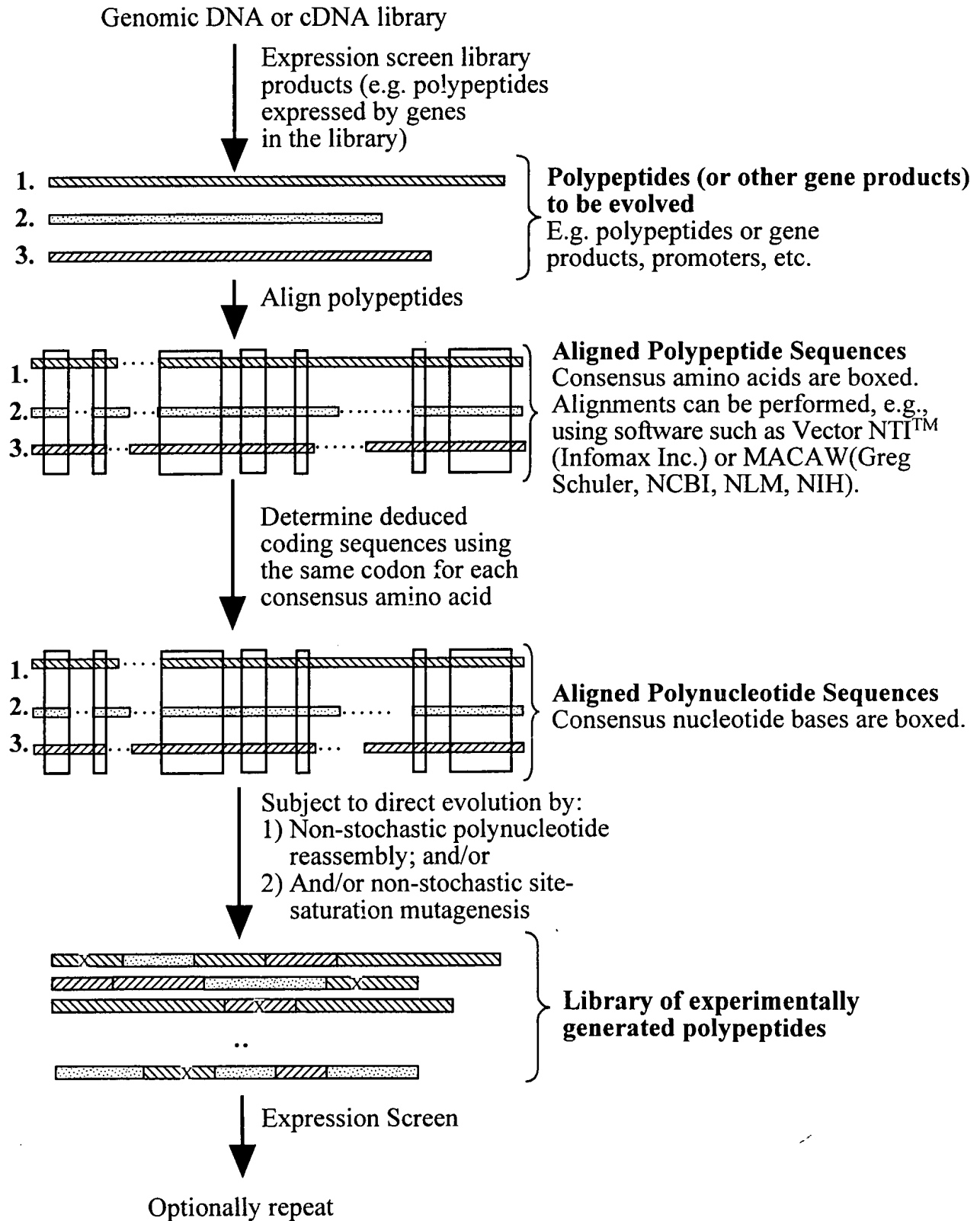


Figure 16

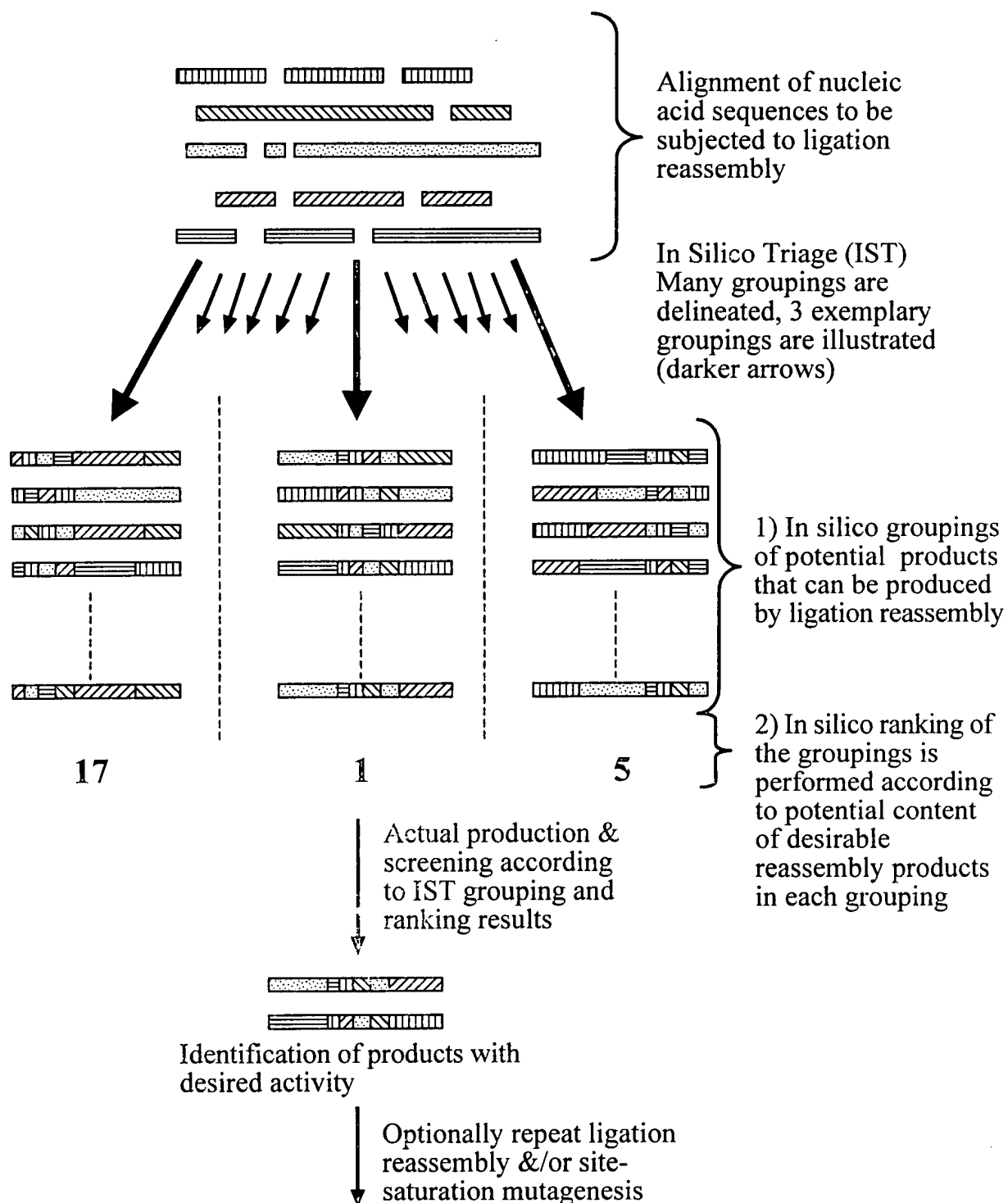
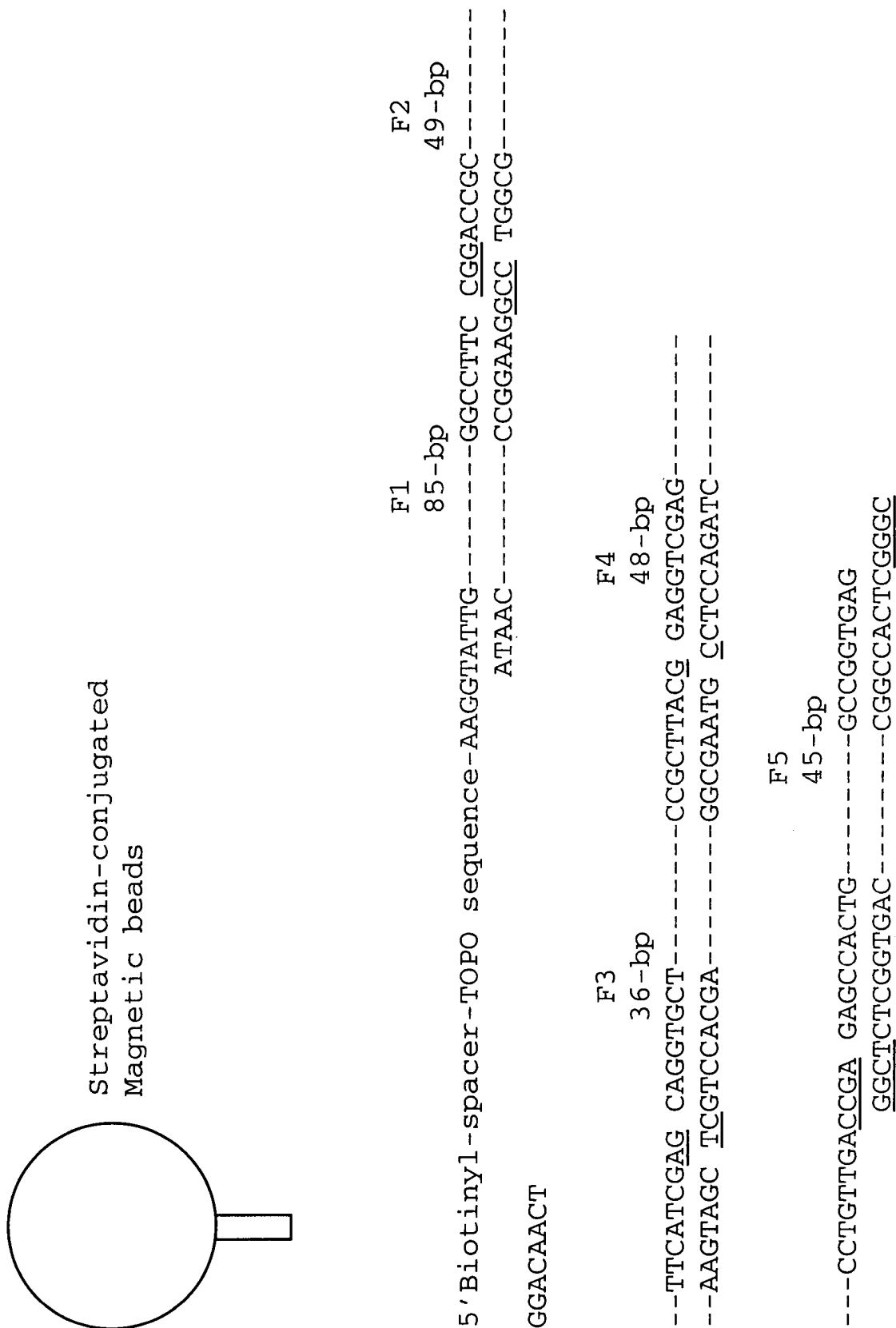


Figure 17



**Figure 18**

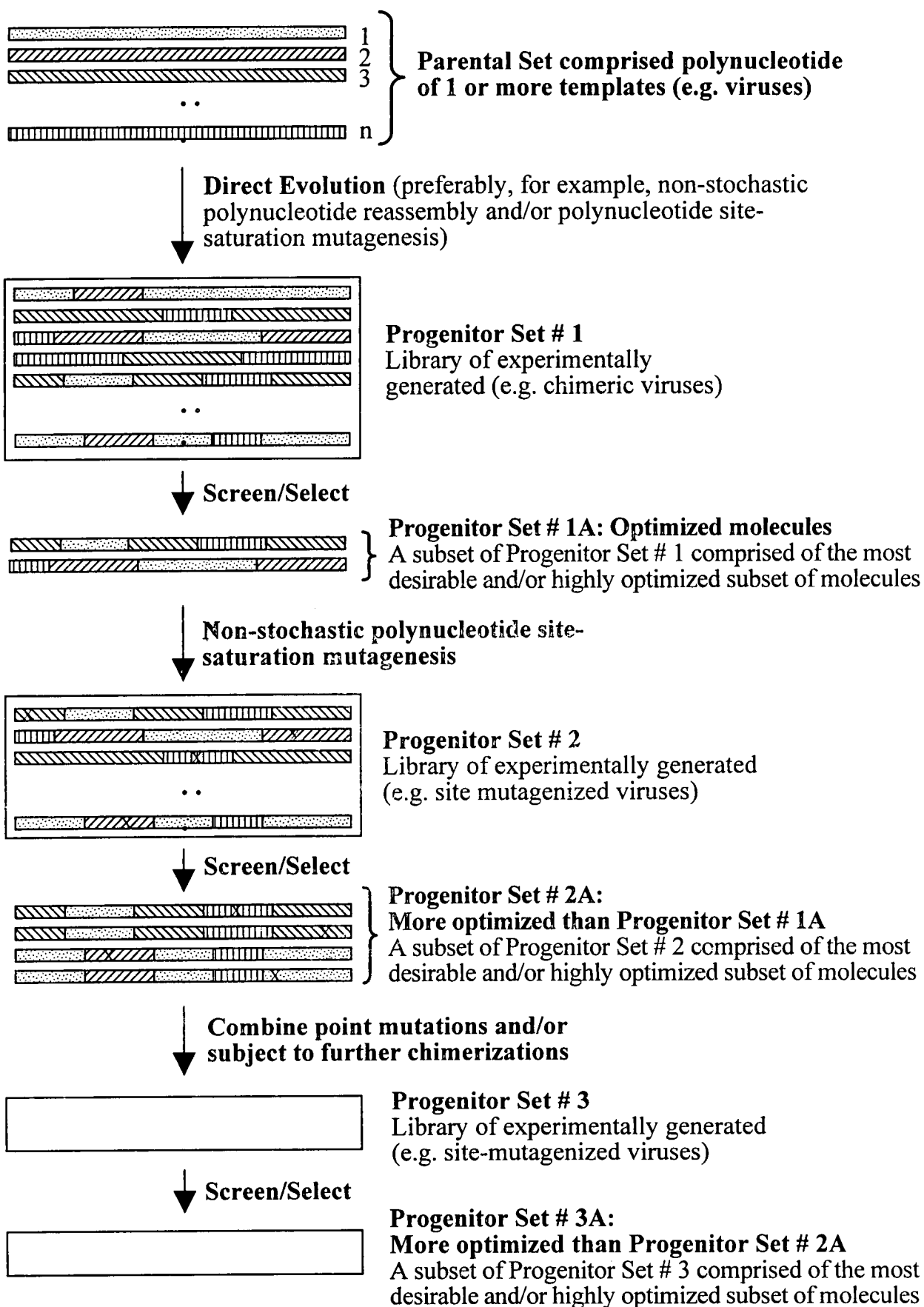


FIG. 19A

|                                 |                |     |  |     |
|---------------------------------|----------------|-----|--|-----|
| AF078102 Rhesus<br>M67443 Towne | (1)<br>(1)     | 1   | ATCGATTAAACTGCCCGATTGAGGTTGTCGCTGAACACATTTGTGTGAGTC-   | 50  |
|                                 |                |     | -----GCCATGCCATCCGTTACTGGTCC                           |     |
| AF078102 Rhesus<br>M67443 Towne | (50)<br>(24)   | 51  | -TTTTCGAAAGGTAGATATGACACTGCTTTTCCAGAAAGTCCCGCTGAAGCCCT | 100 |
|                                 |                |     | CATTTCGGGGCACCGTGCTGAAGAGCCGTTGTTTAGTCCGCGCGAC-ACGCGCG |     |
| AF078102 Rhesus<br>M67443 Towne | (99)<br>(73)   | 101 | GGGTACATATCTGAAGCAGCGAGATGAGCGTCCCGAGGACGTTG-ATACG     | 150 |
|                                 |                |     | GTG-----CTGCCGCA-CGAGACGGGACTCCCTGAGACGGGTATCCA        |     |
| AF078102 Rhesus<br>M67443 Towne | (148)<br>(114) | 151 | C-TGCGACTACGGC-GTCTTCAGTTTTCGTAATCTCGTGTTCCAACGTTG     | 200 |
|                                 |                |     | CGTGCGCGTGAGCCACGCCCTCGCTGATCCTGGTGTCTGCAGTACACGCCCG   |     |
| AF078102 Rhesus<br>M67443 Towne | (196)<br>(164) | 201 | TCT-GAC--TATGTTACAG-GGTGTTTATCTTCCGACAAATACGATCAACCG   | 250 |
|                                 |                |     | ACTCGACGCCATGCCACCGGGCGACAAATCAGCTGCAGGTGCAGCACACG     |     |
| AF078102 Rhesus<br>M67443 Towne | (242)<br>(214) | 251 | TG-TTTACGACAAATATATTAAAGAAATCTTGGTACTATCATTCCTCGTTGC   | 300 |
|                                 |                |     | TACTTTACGGGACCGAGGTGGAGAACCGTGTCTCGTCAA-----CGT-GC     |     |
| AF078102 Rhesus<br>M67443 Towne | (291)<br>(257) | 301 | GCAACCCCTGTAGCTGGTTTCTCGTCCCTCGCTCTGGTATAGATATTCCTCC   | 350 |
|                                 |                |     | ACAACCCCAACGGCCGGA-----GC-----ATCTGCCC                 |     |

FIG. 19B

|                                 |                |  |     |
|---------------------------------|----------------|--|-----|
| AF078102 Rhesus<br>M67443 Towne | (341)<br>(285) | 351<br>CAGGTAGAAACCCGTTTCGTTCCGACGAGTATCTTTGCTGCCAAACAGAGAA<br>CAGCCAAAGAGCCCATGTTCGATCTATGTGTACCGCGTGCCTCAAGATG | 400 |
| AF078102 Rhesus<br>M67443 Towne | (389)<br>(334) | 401<br>TTGGAAGCACTGGGAATATTTGGGGTGTCAGTTGCGTGATGGCAGT-GATC<br>CTGAACATCCCCAGCATCAACGTGCACTACCTACCC-GTGGCGGCCGAGC | 450 |
| AF078102 Rhesus<br>M67443 Towne | (438)<br>(383) | 451<br>GCAGAAATAATAGGAGACTACGTGTGTGTTCTGTCTGGGAAGCTATGGA<br>GCAAAACACCGAATACCTGCCCGTAGCTGACCGCTGTGATTCACCGGTCCGG | 500 |
| AF078102 Rhesus<br>M67443 Towne | (488)<br>(432) | 501<br>TTTGTGTACGTGTATGACTGG---GACAGTGACCGG-ACCTCTTTCAGATAG<br>CAAGCAGTCTGGCAGGCGGCTCTACGGTCTCGGACTGGCCCTGGACCG  | 550 |
| AF078102 Rhesus<br>M67443 Towne | (534)<br>(482) | 551<br>GT-ACCTACTCAAGAACTCGCGACACCGGTTTACTTG-ACATGTGAAT<br>GTACGACAGAACAGTGGAAAGAGCCCGACG-TCTACTACACGTACGCGT     | 600 |
| AF078102 Rhesus<br>M67443 Towne | (582)<br>(530) | 601<br>CGGTATATCGCCATCCGCAAAACGCTTCTCCACCACTCGAGCCCTCGTTT<br>TCGTGTTC-----CCACCAAGGACGTGG--CACTGCGGCACTGGTGTG    | 650 |
| AF078102 Rhesus<br>M67443 Towne | (632)<br>(573) | 651<br>CAAGTCGAGAAATTGTTGTGTCCTCGATCCGACAGACGCACTGCTTACG<br>CGCG-CACGAGCTGTT-TG-CTCCATGGAGAACACGCGCCGCAACCAAGA   | 700 |



FIG. 19C

|                                 |                |   |      |
|---------------------------------|----------------|---|------|
| AF078102 Rhesus<br>M67443 Towne | (682)<br>(620) | 701<br>TAA GAC G CAG A GAG T T T C A T G G C G T T A A C G T A G T A G T G A A A C C C - C T<br>T - - C C A G T G A T A G T G A C C A G T A C G T C A A G G T G T A C C T G G A G T C C T T C T                   | 750  |
| AF078102 Rhesus<br>M67443 Towne | (731)<br>(668) | 751<br>G G G C G A T C G G A G G C C G A T C C C T T G C T C C T T C T G G - - G T A C T G T G G A G A A G<br>G C G A G A C G T - G C C C T C C G G C A A G C T C T T A T G C A C G T C A C G C T G G G C T C     | 800  |
| AF078102 Rhesus<br>M67443 Towne | (779)<br>(777) | 801<br>T A C G T C A A T T G T A T C C C T T T G C T A A A A T G A G A G C T G A T A A C T T T A G T A A<br>A A C G T G G A A G A G G A C C T G A C G A T G A C C C G C A A C C G C A A C C T T C A T G C         | 850  |
| AF078102 Rhesus<br>M67443 Towne | (829)<br>(767) | 851<br>T C T C - - A T A A A G T A T A T T A A T C A A C G C A T G T G T T G C C G A - - - - T G G T A<br>A C C C C A C G A G C G C A A C G G C T T T A C G G T T G T G T C C C A A A A T A T G A T A             | 900  |
| AF078102 Rhesus<br>M67443 Towne | (871)<br>(817) | 901<br>- - C G T A C T T G G T G T T A - - C T G G C - C G T T A C G C T A A T T T T G G A A T T T T G C T C<br>A T C A A A C C G G C A A G A T C T C G C A C A T C A T C C T G G A T G T G G C T T T T A C C T C | 950  |
| AF078102 Rhesus<br>M67443 Towne | (917)<br>(867) | 951<br>A C C T G T G G A A T A A T T C T G T T G G A C G A G T G C G G C C T G T G T T A T G T G C - T G A<br>A C A C G A G C A T T - - T T G G C T G C T - G T G T C C C A A G A G C A T C C C G G C C T G A     | 1000 |
| AF078102 Rhesus<br>M67443 Towne | (966)<br>(914) | 1001<br>G A A T C G A C G A A A G C G A C G T G T T - - C G T C T A G C C G A T A A C A T C A A A T G T<br>G C A T C A G G T A A C C T A T T G A T G A A C G G C A G C A G A T - - C T T C T G G A G G            | 1050 |

FIG. 19D

|                                 |                  |  |      |
|---------------------------------|------------------|--|------|
| AF078102 Rhesus<br>M67443 Towne | (1014)<br>(962)  | 1051<br>TGTTTCAGATGCGGCTTTCTTAAGCTCCGTGGCAATTACGCCGATTTGACCGC<br>TGC---AAGCGA--TACCGGAGA-CCGTGGAACCTGCGTCACT--AC---  | 1100 |
| AF078102 Rhesus<br>M67443 Towne | (1064)<br>(1000) | 1101<br>GCAATGCGTGGCGAGGCTCGTCTG----GAGAGTGAGT-GCTACTGCTAAT<br>-GATCCCGTGGCTGCGCTCTTCTTTTTCGATATCGACTTGTCTGCTGC-AG   | 1150 |
| AF078102 Rhesus<br>M67443 Towne | (1109)<br>(1048) | 1151<br>CAACGCTGACCTGCTAGCAGAGATCTCTTTGGTGCCTCTATGCTCAACACAGT<br>CGCGGCTGCTGCTAGAGGAGACACCCACCTTCAACA--GCCAGTATCGC   | 1200 |
| AF078102 Rhesus<br>M67443 Towne | (1159)<br>(1096) | 1201<br>TACCGCCGAGCAGCTCTGTGTGTCGCT-ACGACTGGCTCAAGCGCAGTAAAT<br>ATCCA--GCTGAGCTTGTAGTACCGACACACCTGGG--ACCGCACGACG    | 1250 |
| AF078102 Rhesus<br>M67443 Towne | (1208)<br>(1142) | 1251<br>CGCGCTCATGATTAATAACCTACCAAGTTGTTGTTGGGGACGTTAGTGAATTT<br>AGGCTGCCGCCAGGGCGACGACGACGCTCTGGACCAACCGGATCGGACTCC | 1300 |
| AF078102 Rhesus<br>M67443 Towne | (1258)<br>(1192) | 1301<br>GATGCTTACCGGAGTATTGCAAGAGAAATCAGAAATTGGTGCCTTCCGTGGA<br>GACGACGAACTC-GTAACCAACGAGCGCAAGACGCCCGGCTTACCTCGCG   | 1350 |
| AF078102 Rhesus<br>M67443 Towne | (1308)<br>(1241) | 1351<br>GACGTGTCAOGGTTCTACAAGGGGCC-CCAAAGCGGTGCGTGGCAA--GAA<br>GCGCGGCAATGG-----CGGGCGCTCCCACTTCCGCGCGCGCAACGCA      | 1400 |

FIG. 19E

|                                 |                  |   |      |
|---------------------------------|------------------|---|------|
| AF078102 Rhesus<br>M67443 Towne | (1355)<br>(1286) | 1401<br>AATGATGAGTTTAAACCGAGAAACCGTCTGATGCTACTGTGATGTTTTCGTGT<br>AATCAGCA-TCCTCGCGGACCGCGTGCACGCGGGCGTTATGACACCGCG    | 1450 |
| AF078102 Rhesus<br>M67443 Towne | (1405)<br>(1335) | 1451<br>A-GACAGAGGTTTTCCTCC CAGAACCGTAAAGTTCCGAGGGTGAAGCGGAT<br>CCGCTTTAAGCCGAGTCC---ACCGTCCGCCGAGAGGACACCGAC         | 1500 |
| AF078102 Rhesus<br>M67443 Towne | (1454)<br>(1381) | 1501<br>GACTACACAGACGAGGAGATGATGATTAACCACTCAGAAAGAACCC<br>AAGATTCGACAAACGA--AATCC---AACAATCCGCCGTGTTCACCTG            | 1550 |
| AF078102 Rhesus<br>M67443 Towne | (1504)<br>(1425) | 1551<br>TAGCATCAGGCTGTGTGTGTCATGTGTTTACATGAACAAACGGCACTGTTG<br>GCGGCTGCGAGGCGCGCATCTTGGCCCGCAACCTGGTGGCCATGTTG        | 1600 |
| AF078102 Rhesus<br>M67443 Towne | (1554)<br>(1475) | 1601<br>ATTCTTATGATGATGAGAGTGAGTCACTCTCTG--TCCCT-CAGATACCCA<br>CTACGGTTTCAGCGTTCAGAACTCTGAAGTACACAGGAGTTCTTCTGGGACGCC | 1650 |
| AF078102 Rhesus<br>M67443 Towne | (1600)<br>(1525) | 1651<br>TGATTCACCACCCCAGACATTAATGGCCATAATCCAAAGGATATGGCA--<br>--AACGACATCTACCG--CATCTTCGCCGAATTGGAAGGCGTATGGCAGC      | 1700 |
| AF078102 Rhesus<br>M67443 Towne | (1648)<br>(1571) | 1701<br>-----AAACGAGAGCCCGTTACCAATGAAGAGGAATGTTACTTC<br>CCGCTGCGCAACCCAAACGTTCGCCGCCACCGGCAAGACGCCCT-TGCCCGG          | 1750 |

FIG. 19F

|                                 |                  |  |      |
|---------------------------------|------------------|--|------|
| AF078102 Rhesus<br>M67443 Towne | (1689)<br>(1620) | 1751<br>GGCGTGCA--CGACGA-GCTAAACAATATGAAAAAGTGGCATGTGTTCCCT<br>CCCATGCAATCGCTCGACGCCCAAAGACACCGAGGTTGAGCCACCCGCC     | 1800 |
| AF078102 Rhesus<br>M67443 Towne | (1735)<br>(1670) | 1801<br>GGAAGGGGTTAGCA-----TTTATGACCCCTTGAATGCTAATATTCACT<br>GCGCAACGCTTAGGACGCACTCTATAAACCACCCACGTCCTCACTCAGACACGCG | 1850 |
| AF078102 Rhesus<br>M67443 Towne | (1779)<br>(1720) | 1851<br>GCTTTGATTAACAAATGCAATTGTATTCAATTATCTAATTCCGGT--GTA<br>ACTTTTGGCCGCTA-----CACCTGTCCCGCTGCTATATTGCGACAGTTG     | 1900 |
| AF078102 Rhesus<br>M67443 Towne | (1827)<br>(1767) | 1901<br>CCGTGTCAATTCTTCCATGTGAGTGGTGGAAACAATATTAATTTAGACA<br>CCGGAACCTTCCCGA--CTCCCCACGAGACCCGTT-CACCTTTTGGCCA       | 1950 |
| AF078102 Rhesus<br>M67443 Towne | (1877)<br>(1814) | 1951<br>-CAGGTATCACTTGTGAAAGCTGAGTCAACAATCATGCAATTGTCGGACGA<br>TCCCTTGACCCCCCCC-----CTCAATCCCGCTTCGCGATGCTCAGGCAAT   | 2000 |
| AF078102 Rhesus<br>M67443 Towne | (1926)<br>(1860) | 2001<br>GGTCCGGGTCCGTTCCGTTCTGTGTTTCT-GTTACGAGTTTACATTTTATTA<br>CGTCC--TCGCCCGGTGAGGACCCCTCGTCGGAAGCGGCCGCGATCAGC    | 2050 |
| AF078102 Rhesus<br>M67443 Towne | (1975)<br>(1907) | 2051<br>TGGTTCAAGTCTTCTATTCTCTAA---<br>GAGGCCGAAGCCGCC-AGCGGAAGCTT   | 2077 |



FIG. 20B

|                                  |       |     |  |     |
|----------------------------------|-------|-----|--|-----|
| AF081502 Marmota monax IFN-gamma | (279) | 301 | -CAAGATCATCCAAAGGAGCATGGACACCATCAAGGGGATCTTTTTCGT      | 350 |
| D30619 Felis catus IFN-gamma     | (299) |     | ACCAGCGCATTCAAAGGAGCATGGACACCATCAAGGAAGACATGCTTGAT     |     |
| X87308 Homo sapien IFN-gamma     | (198) |     | -CCAGAGCATCCAAAGAGTGTGGAGACCATCAAGGAAGACATGAAATGTC     |     |
| AF081502 Marmota monax IFN-gamma | (328) | 351 | AAGTTCTTCAAAGAGCAGTACCAATAAGGCTGACGACTTCCCTAAAGGTGTC   | 400 |
| D30619 Felis catus IFN-gamma     | (349) |     | AAGTTCTTAAATACAGCTCCAGCTAAACGGGATGACTTCCTCAAGCTGAT     |     |
| X87308 Homo sapien IFN-gamma     | (247) |     | AAGTTCTTCAATAGCAACAAGAAACGAGATGACTTCGAAAAGCTGAC        |     |
| AF081502 Marmota monax IFN-gamma | (378) | 401 | TCAAGTTCAAGGTAAATGACCTGAAGATCCAGCGTAAAGCAGTGAAGTGAAC   | 450 |
| D30619 Felis catus IFN-gamma     | (399) |     | TCAAAATCCCTGTGAATGATCTGCGAGGTCCAGCGCAAGCAATAAATGAAC    |     |
| X87308 Homo sapien IFN-gamma     | (297) |     | TAAATTATTCGGTAACTGACATTGAAATGTCCAAACGCAAGCAATAATGAAC   |     |
| AF081502 Marmota monax IFN-gamma | (420) | 451 | TCAAGAAAGTGATGAATGATCTGTACCAACATCTAACCCTAAGGAAGCGA     | 500 |
| D30619 Felis catus IFN-gamma     | (449) |     | TCTTCAAAAGTGATGAATGATCTCTCACCAAGATCTAACCCTGAGGAAGCGC   |     |
| X87308 Homo sapien IFN-gamma     | (347) |     | TCAATCCAAAGTGATGGCTGAACTGTCTGCCAGGAGCTAAAAACAGGGAAGCGG |     |
| AF081502 Marmota monax IFN-gamma | (478) | 501 | AAAAGGAGTCAGTCTTTCGATTTCGGGGTCCGAGAGCATCCAAATAACAGTTC  | 550 |
| D30619 Felis catus IFN-gamma     | (499) |     | AAAAGGAGCCAGAACTCTGTTCGAGGCGCTAGAGCATCGAAAATAATGGTT    |     |
| X87308 Homo sapien IFN-gamma     | (397) |     | AAAAGGAGTCAGATGCTGTTCGAGGTCCGAGAGCATCCGAG-----         |     |
| AF081502 Marmota monax IFN-gamma | (528) | 551 | CTCAATGCCTTGC-----                                     | 569 |
| D30619 Felis catus IFN-gamma     | (549) |     | GTCTGCTGCTGCAATATTG-----                               |     |
| X87308 Homo sapien IFN-gamma     | (439) |     | -----  |     |